

## **IDENTIFYING BARRIERS TO ENTRY INTO THE ORGANIC MARKET AND POSSIBLE STRATEGIES TO INCREASE THE LIKELIHOOD OF SUCCESS FOR POTENTIAL ORGANIC PRODUCERS**

The number of certified organic operations in Texas has remained relatively stagnant while nationally the organic food sector has experienced double-digit growth. To better understand why this is so, the Texas Department of Agriculture in cooperation with Sam Houston State University performed research to determine which adoption barriers are significant for the state of Texas. A survey was distributed to a random sample of 4,006 Texas producers and the total number of completed surveys was 977, a sufficient sample for the total population. The results will be used in developing strategies to promote the growth of organic production in Texas by addressing the concerns of producers interested in targeting this growing market.

Final Report  
Survey Instrument

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# **Identifying Barriers to Entry into the Organic Market and Possible Strategies to Increase the Likelihood of Success for Potential Organic Producers**

**2007 Federal State Marketing Improvement Program Project**

Awarded to the:

Texas Department of Agriculture

**Final Report**

**October 2007**

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## ***Executive Summary***

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The number of certified organic operations in Texas has remained relatively stagnant while nationally the organic food sector has experienced double-digit growth. Because of this, the Texas Department of Agriculture (TDA) in cooperation with Sam Houston State University (SHSU) performed research to determine which adoption barriers are significant for the state of Texas. The results will assist in developing strategies to promote the growth of organic production in Texas by addressing the concerns of producers interested in targeting this growing market.

A survey was distributed to a random sample of 4,006 Texas producers through the U.S. Department of Agriculture (USDA) National Agricultural Statistics Service (NASS). The total number of completed surveys was 977, a sufficient sample for the total population. The results indicate 89 percent of the producers practice conventional methods while 12 percent currently practice organic production but are not certified. Eighty-five percent of producers have been in production for more than 10 years. Fifty-four percent said they had no interest in organic adoption.

Producers were indifferent to the requirement of additional revenue for adoption. Very little information was gleaned from marketing and production barriers as most were rated as “moderate barriers” to adoption. Most information services were also seen as “somewhat useful.” When producers were asked to select topics that would help them learn about organic production, *fertilizing techniques*, *disease control*, *insect control*, and *weed control* were the most frequently selected topics.

Interesting results were obtained when producers were asked to rank various statements regarding organic farming. Many agreed with the statement that they are *satisfied with their current farming system*. While *organic farming is attractive because of problems experienced with conventional systems* was the statement with which respondents most often disagreed. The statement which producers most frequently rated as “not sure” is *lenders support the idea of organic farming* (63 percent).

A one-way analysis of variance test was performed between producer groups. In regard to the information gathered concerning marketing barriers, there is statistical significance between each producer group except when comparing responses to the *unstable organic markets and/or prices* prompt. One example of this statistical significance is that unlike many of the other groups, greenhouse/floriculture producers saw *competition from “non-organic” products* as a “severe barrier” to marketing organic products. For production barriers, results show there are fewer significant differences between producer groups. *Pest related production losses, weed related production losses, and organic processing facilities* were the three production barriers proving to be statistically significant. *Representation on public policy issues and crop insurance* were not ranked highly overall.

Thirteen percent currently practice organic production methods but are non-certified. It is unsure why these farmers do not become certified. Forty-nine percent of those interested have less than \$50,000 a year in annual sales. For almost all production and marketing barriers, those who said they were not interested ranked them as “severe barriers” to organic adoption. For information services, those interested found information pertaining to *directories of organic product buyers, education programs about organics, organic export/market development, and organic processing facilities* as the information services that would be “very useful.” The biggest uncertainties were financially oriented, as those interested were unsure if organic production is financially viable, is feasible in the long run, and has proven itself to be profitable.

Based upon the results of the survey and its analysis, specific policy recommendations were developed. These include:

- Assisting in overcoming production barriers faced by those producers interested in organic production. Industry leaders and policymakers should consider each of the following measures to accomplish this goal.
  - First, a supply co-operative could be developed to offset high input cost.

- Second, a series of educational seminars on organic requirements and certification procedures should be developed to inform producers on the benefits, risks and processes involved in certified organic production.
- Third, a directory of local and regional organic buyers and markets should be developed and maintained for organic producers.
- Fourth, local/regional markets can be developed through marketing assistance programs to educate consumers about the availability of locally grown organic products.
- Lastly, an education program should be developed where lenders are shown the challenges with organic production and understand the financial constraints over the transition period.
- Additionally, resources may be best utilized by directing efforts toward the development of organics amongst newer vegetables/fruits and greenhouses/floriculture producers, who show a higher interest in organic adoption.

### ***Outline of Issue or Problem***

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Organic farming is one of the fastest growing segments of U.S. agriculture (Dimitri and Greene 2002). In recent years the organic food sector has experienced double-digit growth ranging between 17 percent and 20 percent, while the conventional food industry has experienced a much more moderate 2 percent to 3 percent growth (USDA/ERS 2007; OTA 2006). The amount of certified organic cropland doubled between 1990 and 2002 and then doubled again by 2005. The organic livestock sector grew even faster than the crop sector (USDA/ERS 2007). Following the trend in production, the U.S. organic market more than doubled from 2000 to 2006. Sales of organic food increased from \$5.5 billion in 1998 to almost \$14 billion in 2005 (DataMonitor 2007).

Consumer demand is the major driving force for organic production. Thompson (1998), Lohr (1998) and Casellas et al. (2006) indicate consumers' food tastes are changing. They are demanding product attributes that include safety, convenience, quality and

attributes such as environmental quality, animal welfare or lack of genetic modifications. Consumers of organic food want to feel confident that they are buying food that not only was grown organically, but also has kept its organic integrity at each stage in its journey to the market (Dimitri and Greene 2002). The results of a 2003 study conducted in Vermont indicate that young people with higher income, smaller household size and fewer children were willing to pay more for organic food. Conner (2004) found a connection between the high prices paid for organics and consumers' belief in the superiority of organic foods and their ability to deliver health benefits.

The creation of national organic standards in 2002 supported the growth of the market by providing customers accurately identified organic products. Agribusiness has changed its practices to meet the demand. As the organic industry has become more mainstream, larger farms and ranches have reduced their costs by streamlining their operations. Organic prices are dropping as production, which will likely continue expanding (DataMonitor 2007), increases to meet demand. Production in the United States is still lagging behind demand.

Distribution channels are becoming another major factor influencing organic production. In 2000, more organic food was purchased in conventional supermarkets than in any other venue. Organic products are now available in nearly 20,000 natural foods stores and are sold in 73 percent of all conventional grocery stores (Dimitri and Greene 2002). In recent years the conventional supermarkets have continued to rapidly increase their share of organic sales (OTA 2006). The burgeoning consumer interest in organically grown foods has opened new market opportunities for producers and is leading to a transformation in the organic foods industry.

In this scenario, significant entry into the market is expected. However, many producers in the marketplace point to a variety of constraints, such as in the case of livestock producers the lack of organically grown feed, when adopting organic practices. Many conventional producers are not willing to venture into the world of organics, even though

organically certified beef cattle can bring several dollars more per hundred weight than conventionally raised cattle.

Dimitri and Greene (2002) state that as consumer interest continues to gather momentum, many involved in the supply chain are specializing in growing, processing, and marketing an ever-widening array of organic products. However, according to Greene and Kremen (2003) and Kuminoff and Wossink (2005), organic production involves a higher degree of yield risk than conventional production. The adoption of organic methods takes a period of several years to take full effect, which can lead to an increased risk of damage to crops from pests or weeds in the early years of organic production.

Even with growth in demand, several factors must be considered before adopting organic production. Previous survey research has shown that farmers perceive the uncertainty of the conversion to organic as a major obstacle (Padel, 2001). According to Dimitri and Greene (2002), the damage incurred by organic products prior to processing or retail sale is a form of yield risk faced by organic producers. Even though organic producers face risks associated with organic yields, organic producers do not have access to crop insurance or other federally funded assistance programs, according to Volpe (2006). As stated by Lohr (2001), key financial constraints are the lack of access to premium prices until conversion is complete, conversion-related investments and disinvestments, and information gathering costs for production and marketing. While some other countries provide incentives for organic transition, including programs to subsidize the lower yields during the transition period, there are no such programs offered in the United States (Guthman 2004; Michelsen 2001; Tovey 1997).

Based on figures provided by TDA's organic certification program, as well as by USDA, the number of certified organic operations in Texas has remained relatively stagnant, fluctuating from year to year, but not expanding nearly as rapidly as the demand for organic products, specifically food. There seems to be a discrepancy between the market's capacity for new producers, which given the rapid growth would appear large,



and the escalation in the actual number of new growers in Texas, which is relatively small.

USDA data reveals that the big increase in total certified organic acres in crops and pastureland and number of operations in Texas occurred in the 1997-2002 period. The rate of increase in certified-livestock was higher in the 2002-2005 period. There is wide variation across the commodities. Some decreased in total certified organic acres (oilseeds and cotton), several increased moderately (grains, beans, fruit, and peanuts) and some increased substantially (livestock, hay/silage, and vegetables). In 2005, Texas ranked sixth in total cropland acres (87,124 acres) and second in pasture acres (241,353 acres) (USDA/ERS 2007).

### ***Approach to Issue or Problem***

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Originally, this research set out to measure the barriers facing producers aspiring to enter the organic marketplace by developing and distributing an electronic survey to members of the major agricultural commodity groups in Texas. Upon contacting the various commodity groups, the project team learned that most of the groups would require either member or board approval in order to provide an e-mail distribution list or send out an e-mail survey on our behalf. Most of the meetings at which approval could be requested occur in the summer, therefore, too late to be useful for the grant period. As this method was no longer viable, an alternative survey method was developed.

A survey was distributed via postage mail to a random sample of 4,006 producers in Texas through the USDA National Agricultural Statistics Service (NASS) by means of a longstanding TDA/USDA interagency agreement. To determine the proper sample size, all Texas producers were first categorized based upon farm value in sales. After narrowing the scope of the survey to any producer reporting farm sales above \$25,000, the numbers of producers in all commodity categories meeting the aforementioned stipulation were calculated for Texas. A sample, randomly selected from each producer

group based on the estimated response rate of 30 percent, was mailed a survey (see attached sample survey). A second and third mailing increased the response rate. Table A in the appendix shows the estimated sample response size and the actual sample response size. Table A1 reflects the original sample size and the corresponding commodity group representation.

The total number of surveys returned was 1,178 with 977 of those surveys being sufficiently completed. This is slightly below the target sample response of 1,200 surveys. However, each producer group contained a sufficient number of surveys to extrapolate to the population. The number of surveys was sufficient to make statistically reliable inferences to a population of this size.

The data is descriptively summarized using frequencies, percentages, means, and cross tabulation statistics. In addition, a one way Analysis of Variance (ANOVA) test was used to determine statistical differences among producer groups for various questions. This was critical for determining policy objectives to meet the needs for each group. Each producer group should have different perceptions for various barriers.

### ***Contribution of Cooperators***

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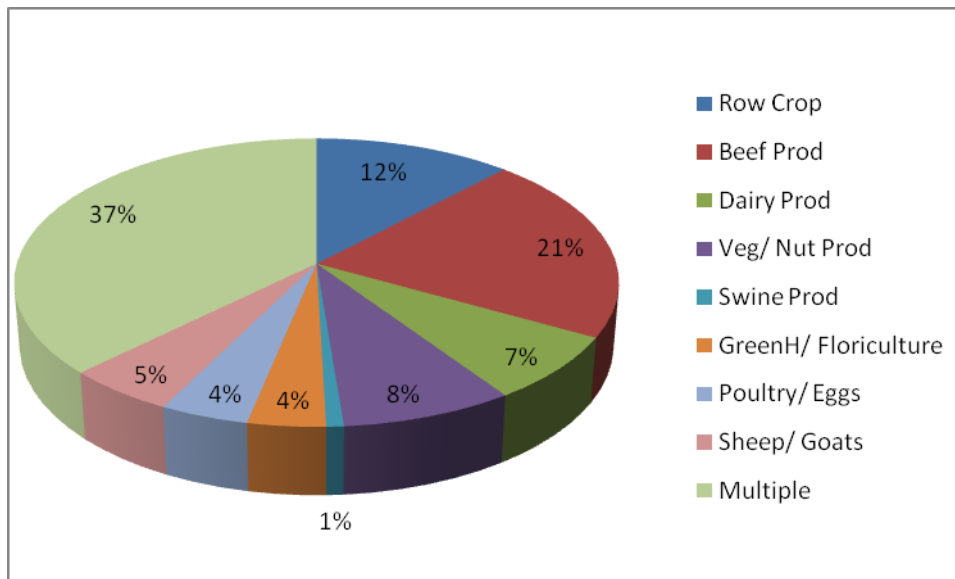
This research was a collaborative effort between the Texas Department of Agriculture (TDA) and Sam Houston State University (SHSU). Each collaborator made in-kind contributions to the project in order to meet the matching requirement. TDA was responsible for the identification of the proposed area of research, development of the proposal, administration of the grant, development and submission of the progress reports and the distribution of the final report. SHSU collaborated with TDA to edit the survey instrument, collected the subsequent data, analyzed the data, and created the draft reports as part of an interagency agreement between TDA and SHSU.

Sam Houston State University provided a departmentally paid graduate research student as well as University faculty to work in the project.

## **Organic Survey Results – Demographic Summary Statistics**

**Question 1. Please indicate the type of producer category that best describes your business.**

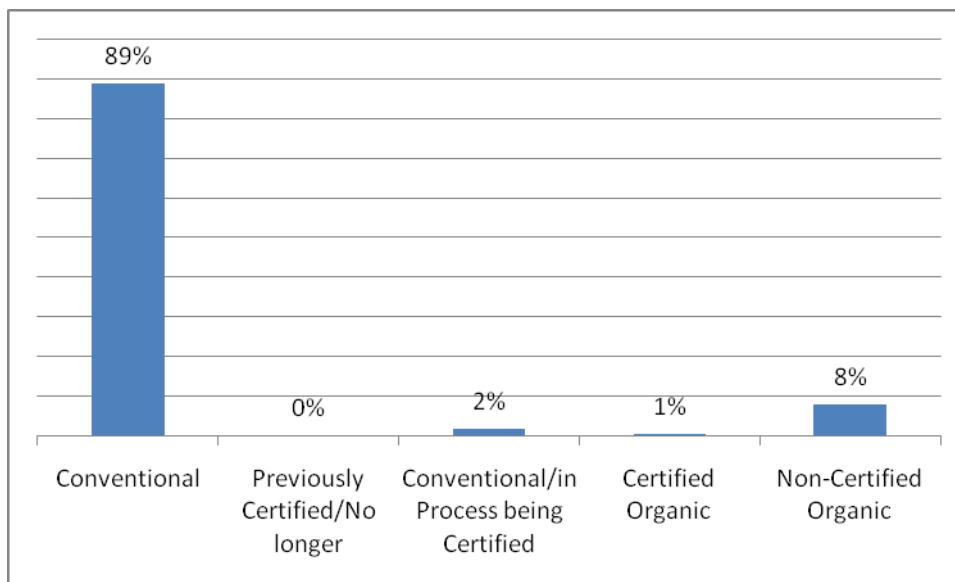
Figure 1 presents the results for the producer category. Producers could select multiple categories. Of the respondents, 37 percent report they produce multiple crops. The most prevalent combination for multiple crops producers is a combination of beef and row crops. Beef cattle producers had the largest single response at 21 percent with row crop being second at 12 percent. Swine producers are the lowest, representing only 1 percent of the sample.



***Figure 1. Producer Categories by Respondents***

Question 2. Which of the following statements are most accurate regarding your current agricultural operation?

Figure 2 presents the current production practices for producers. As shown, 89 percent are conventional farmers. There are no producers who were previously certified and no longer producing organically. Two percent of producers are conventional and in the process of being certified. One percent of producers are currently certified organic. Eight percent of producers are currently practicing organic production but are not certified. The results in Table B of the appendix show most non-certified organic producers are cattle producers, vegetable/fruit producers, and producers of multiple crops.

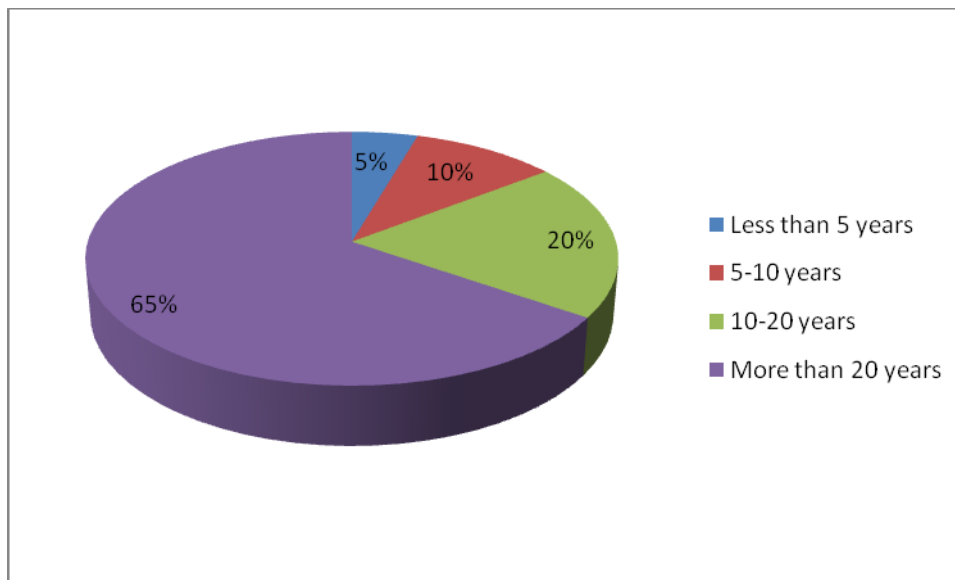


**Figure 2. Current Production Practices**

Question 3. Please indicate your years in agricultural operation (including conventional and organic).

Figure 3 shows 65 percent of the producers have been in business for over 20 years. Producers who are in business for less than 5 years represent 5 percent of the sample. This is consistent with current agricultural producer demographics in Texas.

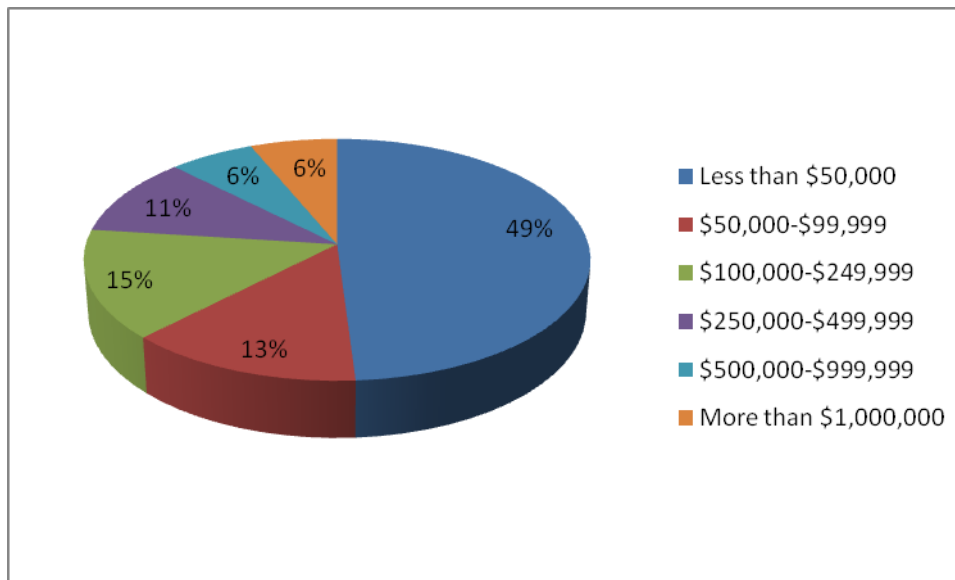
Table C in the appendix shows the cross tabulation results for production practices versus number of years in operation. Table D shows the cross tabulation between producers and years in operation. A greater percentage of producers in the 0-5 year category are practicing non-certified organic relative to producers 20 years and over (7 percent). This statistic is consistent with the hypothesis that a greater number of younger producers are practicing organic production methods.



**Figure 3. Number of Years in Agricultural Production**

Question 4. Please identify the size of your operation by selecting the category that best describes your annual gross sales.

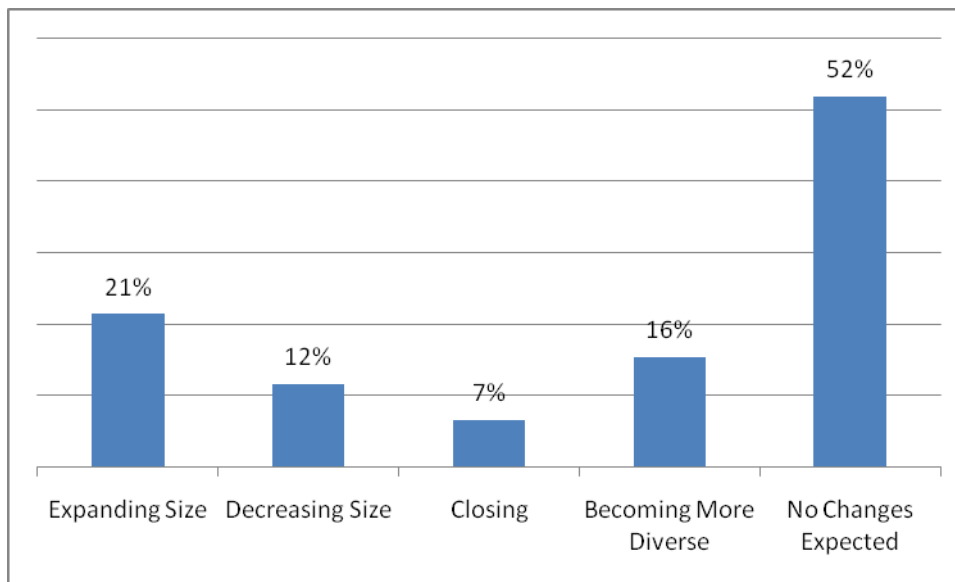
Figure 4 presents the results for the size of producers based on annual gross sales. A majority of farmers, 49 percent, market less than \$50,000 annually in gross sales. Only 12 percent of all producers market over \$500,000 annual in gross sales. Table E in the appendix shows the cross tabulation analysis. A majority of the producers over \$500,000 in annual gross revenue are row crop and dairy producers. A large percentage of green house/floriculture producers are over \$500,000 in annual sales. Most vegetable/fruit/nut, swine, poultry, and sheep/goat producers are small in size.



**Figure 4. Annual Gross Sales of Producers**

Question 5. How do you see your operation changing in the next three years?

Producers could select multiple categories that best fit their expectations for the future of their operation. Fifty-two percent of producers do not expect to make any changes in the near future. Twenty-one percent are expecting to expand production while 12 percent are expecting to decrease production. Seven percent of producers are expecting to close operations in the next three years. Almost all respondents who chose multiple categories included *becoming more diverse* as a selection. The cross tabulations in Table F of the appendix show beef producers are the ones who seem most likely to decrease in size or close. Dairy producers are most likely to expand in size.

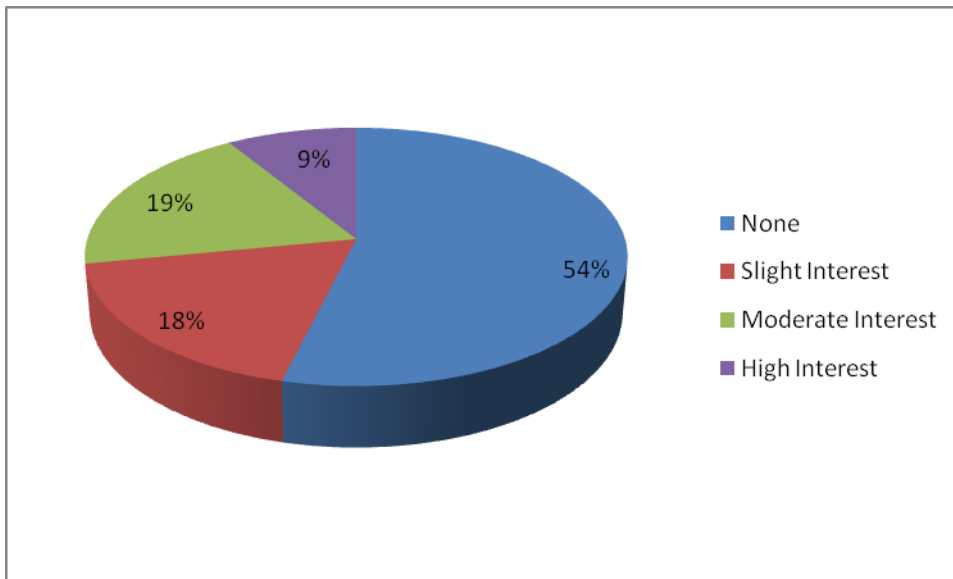


**Figure 5. Percent of Operations Changing in the Next 3 Years**

Question 6. Please indicate your interest in becoming involved in organic production.

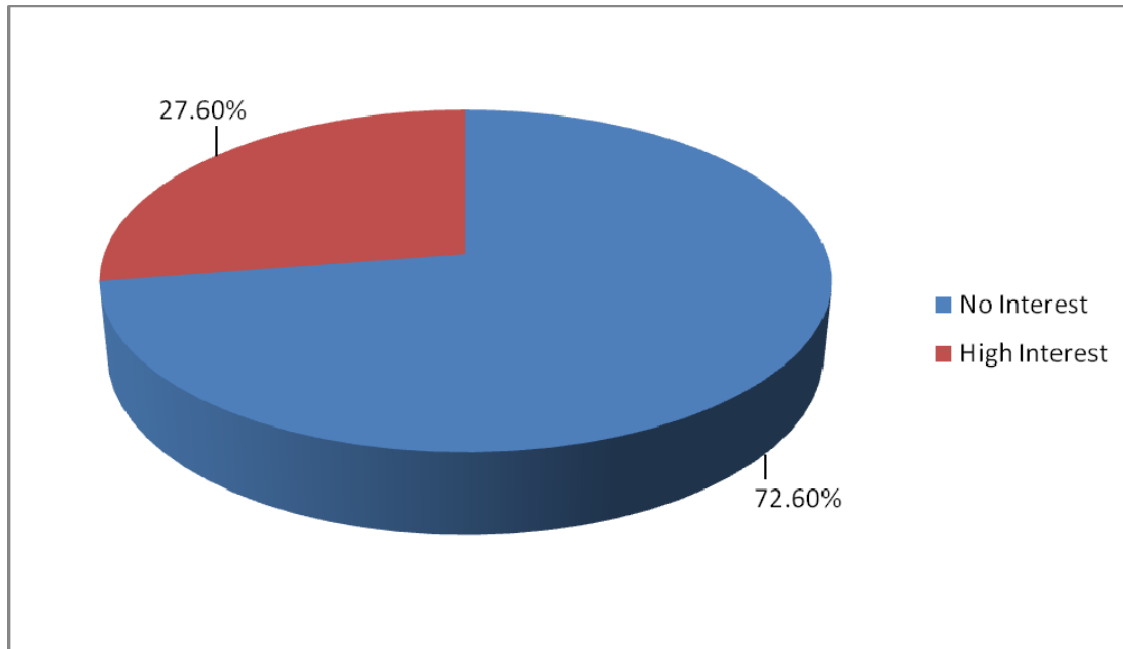
Figure 6 indicates 54 percent of all producers are not interested in organic production, 18 percent are slightly interested in organic production, 19 percent are moderately interested, and 9 percent are highly interested in adopting organic production. Additional information to identify which producer groups are interested in organic production will be helpful to determine direction of future policy.

Producers who answered *No Interest* or *Slight Interest* are grouped together as *No Interest*. Producers who answered *Moderate Interest* and *High Interest* are grouped together as *High Interest*. From Figure 7, 72.6 percent of respondents show no interest in organic production. Table 1 below shows the cross tabulation results between producer groups and interest in organic production. Row crop and beef producers are the least interested in organic production with 83 percent and 81 percent, respectively, expressing no interest in organic production. Vegetable/fruit and greenhouse/floriculture producers express the most interest in organic production with 40 percent and 36 percent, respectively, expressing high interest in organic production.



**Figure 6. Percent of Operations Recognizing Interest in Organic Production**





**Figure 7. No Interest versus High Interest Groups in Organic Production**

**Table 1. Cross Tabulation between Producer Groups and No Interest/High Interest**

	No Interest	High Interest
Row Crop Production	83%	17%
Beef Production	81%	19%
Dairy Production	76%	24%
<b>Veg/Fruit/Nut Production</b>	<b>60%</b>	<b>40%</b>
<b>Swine Production</b>	<b>75%</b>	<b>25%</b>
<b>Green House/Floriculture</b>	<b>64%</b>	<b>36%</b>
Poultry/Egg Production	76%	24%
<b>Sheep/Goat Production</b>	<b>75%</b>	<b>25%</b>
Multiple	67%	33%

**Bolded indicates groups expressing higher levels of interest.**

### **Organic Survey Results – Marketing and Production Barriers** **Summary Statistics**

Various questions regarding marketing and production barriers to organic production are summarized below. These questions are based on a Likert Ranking Scale. Results are summarized for the overall sample and next broken down to compare rankings across producer groups and interest.

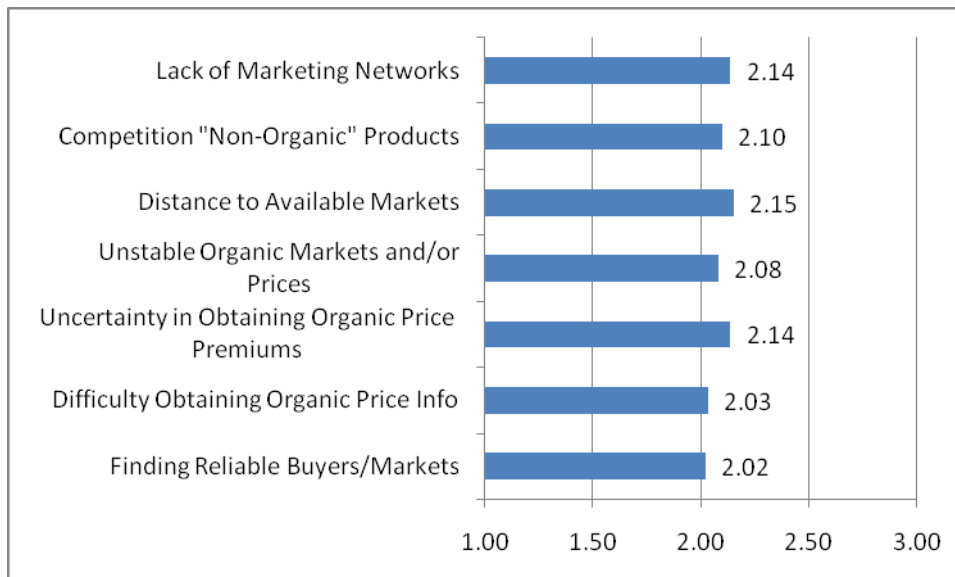
Question 7. Please indicate how you would classify the following as barriers to your personal entry into organic markets.

This question determines the main adoption barriers to organic production. The question is separated into two parts, marketing conditions and production conditions. Producers are given the following ranking choices:

- "Not a barrier" = no issue to entering organic markets
- "Moderate barrier" = some level of barrier for entry to organic markets
- "Severe barrier" = a definite barrier to entry

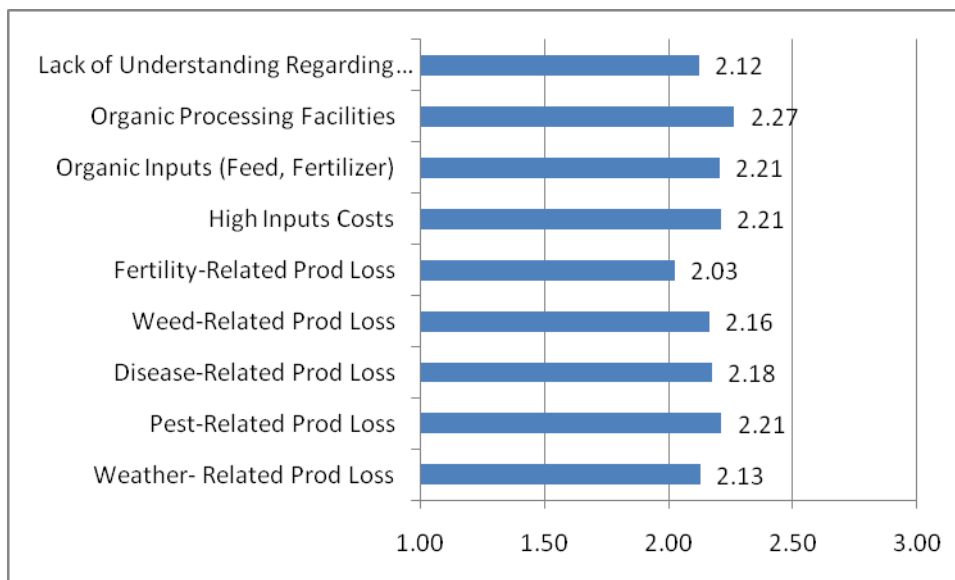
Figure 8 presents the ranking results for marketing conditions. A “1” value represents not a barrier, “2” is moderate barrier, and “3” is severe barrier. As the figure indicates, producers rank all marketing categories as moderate barriers to organic adoption.

Table G in the appendix examines the frequency results. The frequencies are fairly consistent among rankings, indicating there is little difference among marketing barriers. *Distance to available markets* does stand out as 43 percent of respondents report it as a “severe barrier” to organic adoption.



**Figure 8. Marketing Condition Adoption Barriers (1=not barrier, 2=moderate, 3=severe barrier)**

Production barrier rankings are in Figure 9. The results are similar to the marketing barriers where producers rank the barriers as moderate. Very little information can be gleaned from these results as no production barrier is seen as a severe barrier. The frequency distributions in Table H in the appendix show more producers rank *organic processing facilities*, *pest-related production loss*, and *high input costs* as “severe barriers” for organic production. *Fertility related production loss* was the highest returned number for “not a barrier” to organic production.



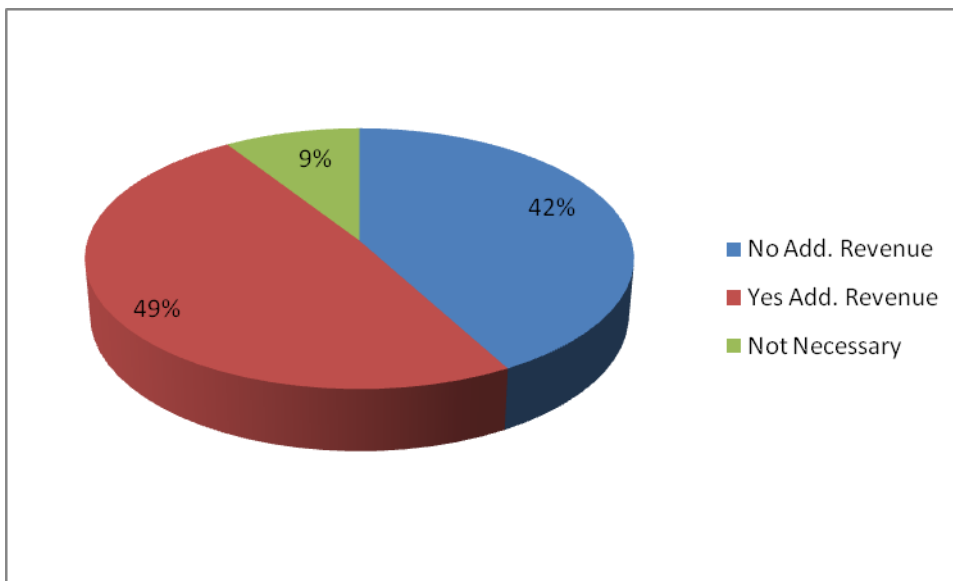
**Figure 9. Production Condition Adoption Barriers (1=not barrier, 2=moderate, 3=severe barrier)**

Question 8. Would an increase in revenue facilitate your adoption of organic production?

Figure 10 illustrates the results when producers were asked whether additional revenue would be required in order to adopt organic production. Forty-two percent would not adopt organic production even with additional income. Forty-nine percent say an increase in income is necessary for organic adoption. Nine percent say an increase in revenue is not necessary for adoption of organic production. For those who require additional income, \$84,000 is the average income necessary to adopt organic production. However, this number ranges from \$5,000 to \$3,000,000 for producers.

Cross tabulation results for additional revenue versus interest in organic production is in Table 2. Those who say no additional revenue would encourage them to adopt organic production show no interest in organic adoption (94 percent). Those who say additional revenue is not necessary show higher interest in organic adoption (54 percent).

Looking at the cross tabulation results of Table I in the appendix, no additional revenue would encourage organic production among beef producers, vegetable/fruit producers, greenhouse/floriculture, and poultry/egg producers.



**Figure 10. Additional Revenue Requirement for Adoption**

**Table 2. Cross Tabulation between Revenue and No Interest/High Interest**

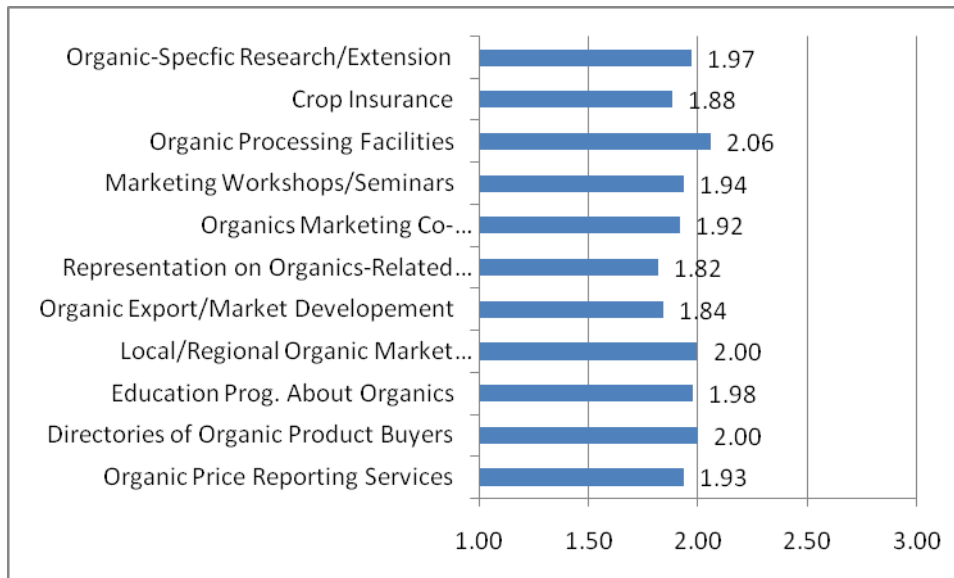
	No Interest	High Interest
No, Add. Revenue Would Not Facilitate Change	93%	7%
Yes, Add. Revenue Might Facilitate Change	59%	41%
Additional Revenue Not Necessary	46%	54%

Question 9. Please rate the usefulness of the following information and/or services for marketing your products organically.

Question 9 determines which services and/or information are important to promote organic adoption from producers. The value rankings are very similar to question 7:

- 1 = "Not useful"
- 2 = "Somewhat useful"
- 3 = "Very useful"

Figure 11 shows the results from the survey. *Organic processing facilities* ranked the highest among all choices. *Crop insurance*, *representation on organic related public policy issues*, and *organic export/market development* are ranked the lowest among the choices.

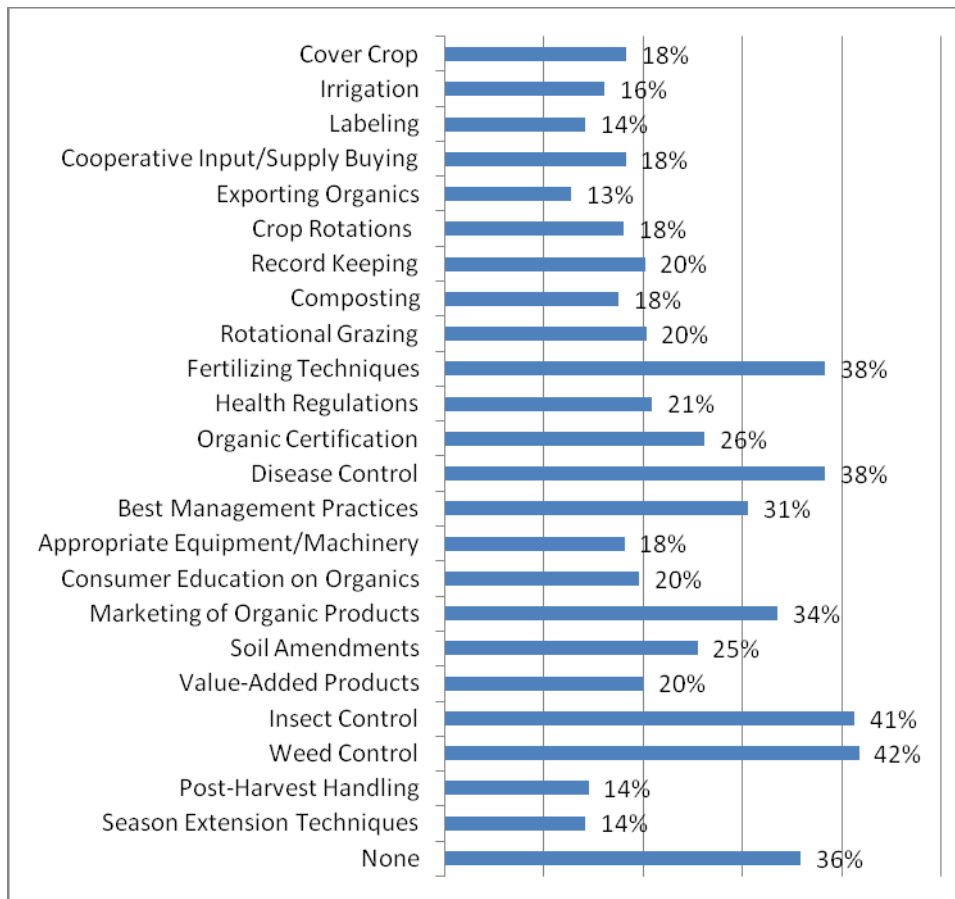


**Figure 11. Organic Information/Services (1=not useful, 2=somewhat, 3=very useful)**

Question 10. Please indicate which of the following topics will help you learn more about organic production.

Producers were given a list of topics related to organic production. The producers selected which topics would help them learn more about organic production. Figure 12 shows the results in percentages from the survey. Producers could select as many topics as desired. *Fertilizing techniques, disease control, insect control, and weed control* are the most selected topics most among producers. All four are specific to production practices. *None* was selected often with 36 percent. The least selected topics are *exporting organics, post-harvest handling, and season extension techniques*.

Table K in the appendix shows the cross tabulation results between producer groups and services/information. Both livestock and crop producers often selected *insect control*. While both row crop and beef producers frequently selected *weed control*. *None* was often selected for row crop producers, beef producers, poultry/egg producers, and sheep/goat producers.



***Figure 11. Percent of Producers Recognizing Topics that Help them Learn about Organic Production***

Question 11. Please indicate whether you agree or disagree with the following statements.

Table 3 below shows the percentages of respondents and the associated selections for agree, disagree, and not sure. Many agree with the statement they are *satisfied with their current farming system* (72 percent). For the statements of *support the philosophy of organic farming* and *concerned about economic risks of transitioning to organic methods*, producer answers vary between “agree” and “disagree.” For disagree responses, *Organic farming is attractive because I have experienced problems with my conventional system* is the statement most often selected with 59 percent. The statement that producers were most frequently unsure about is *lenders support the idea of organic farming* (63 percent). The lowest response rate for “agree” is *Lenders support the idea of organic production*, with only 4 percent of the producers agreeing.

**Table 3. Frequency Distribution Percentages for Producer Statements**

<i>Producer Statements</i>	<i>Agree</i>	<i>Disagree</i>	<i>Not Sure</i>
Satisfied with my Present Farming System	72%	14%	14%
Organic farming is Technically Viable for Me	21%	37%	42%
Organic Farming is Financially Viable for Me	14%	40%	46%
Organic Farming is a Feasible Long-Term Production Method for Me	15%	40%	45%
Believe Organic Markets are Reliable	18%	33%	49%
Support the Philosophy of Organic Farming	48%	24%	28%
Organic Production is Compatible with High Prod Farming Methods	11%	47%	43%
Organic Farming is Attractive Because of Problems Experienced with a Conventional System	11%	59%	30%
Lenders Support the Idea of Organic Production	4%	33%	63%
Are Concerned about Economic Risks of Transitioning to Organic Methods	48%	20%	31%
Have the Right Equipment for Organic Production	18%	36%	45%
Feel the Necessary Informational Support for Organic Farming is Available	20%	30%	50%
Have Seen Evidence that Organic Farming is Profitable	18%	37%	45%
Can Successfully Farm Without the Use of Synthetic Chemicals	21%	36%	43%
Understand the Process of Organic Certification	15%	35%	50%
Interested in Organic Production, but not Organic Certification	19%	35%	46%



Question 12. Please provide comments regarding your thoughts on organic production and barriers to adoption.

Question 12 of the survey is an open-ended question asking producers their thoughts or opinions on organic production. Producers seem to see organic adoption as a substantial risk and do not believe they have enough information to switch from conventional farming. Also, based upon select producer responses, organic production may be poorly suited for certain regions of Texas. Some producers such as floriculture and mohair do not see any added benefits from adopting organic production. The following are some examples of responses for Question 12:

*Large Scale Organic Production is expensive & adds too much cost to produce. No way to control diseases with respect to animal production.*

*I am interested in organic farming, but I am not sure the additional profit is there.  
Organic farming seems to cost more.*

*I don't think the market is there to pay the increase in cost. I think there is a very fine line between organic and non-organic. I don't think we know where that line really is.*

*I'm not against organic farming, but prefer conventional methods for my operation.*

*If we could get more farmers to go organic we would have less pest problems and better product to sell. I think organic farming is the way to go for the future.*

*Current barriers are time and finances/revenue. What is the tax breaks for organic farming? Are there any government subsidies to help change over?*

*Organic production tends to be more costly and produce lower quality ornaments.*

*Our family has used organic farming for 5 generations for our general application. We've shunned the use of chemicals in both fertilizers and insecticides; however we have used them and found no long-term damage. We've had 130 yrs to experiment& we would*

*use safe chemicals if available. My G-Grandfather composted his garden soil, passing this & many other cottage industry skills to his children. Repeal the death tax & these skills will last generations.*

*Organic methods may be good for food crops, but as far as flower bulbs which are not edible, I don't see it. I do use mulch and barnyard fertilizers along with systemic products.*

*Not a great enough increase in income to justify great changes...labor, handling, harvest, and processing, etc...*

*I think there is a future in organic farming. I experienced the demand for organic vegetables in Alaska this winter. They are higher than the regular products raised locally and imported but to avoid pesticides and other undesirable fertilizers, but people were paying double the price of the regular vegetables willingly.*

*I would first like to say that I do not have a full understanding of what "certified organic" means. I am not aware of any livestock yards, feed suppliers, fertilizer suppliers in the area that could help. Where are the nearest suppliers/markets to Wilson Co.?*

*I have been an organic gardener for 30 or more years. I am retired and do not plan to sell or market what I grow. We need local markets for farmers. We need to know how to find these markets. I would use them and know many others would use them.*

*I am not currently informed well enough about organic production but I believe in the theory. Would very much like to learn more.*

*I'm not convinced that totally organic production is viable here. I think a combination of somewhat organic and IPM techniques make more sense. I am in favor of using less pesticide whenever possible.*

*I am a 73 year old farmer and don't plan to change!*

*Area is not suitable for this type of farming- no irrigation, weather, poor soil.*

*Adoption time and procedure to develop into a productive, reliable market with profitable returns would cause my interest to come on strong. If the need is out there, I would be interested in assisting supply the product.*

*I am interested in organic farming but I know nothing about it.*

*If significant profit margins are available, American farmers will produce the product.*

*I believe organic production is, and will remain, a niche market. There is no feasible means of supplying the world's food and fiber demands without agrochemical inputs.*

## **Organic Survey Results – Statistical Analysis by Producer Groups**

As stated earlier, producers are broken down into 9 different subgroups. Since this study encompasses all producers, there may be differences among the producer groups not gleaned from the overall summary statistics. To determine if there are significant differences among producer groups, a one-way ANOVA was used for scaled items. All significance at the  $p = 0.05$  level was reported. These differences assisted in the development of the policy recommendations in this report.

Table 4 represents  $p$ -values for significance between producer groups and marketing/production barriers. There is statistical significance between each producer group for marketing barriers except for *unstable organic markets and/or prices*. Further analysis shows for almost all barriers, swine producers have the highest mean ranking, indicating it is a “severe barrier”. Greenhouse/floriculture producers saw *competition with “non-organic” products* as a “severe barrier” to marketing organic products.

For production barriers, the results show there fewer significant differences between producer groups. *Pest related production losses*, *weed related production losses*, and *organic processing facilities* are the three production barriers statistically significant between producer groups. These results are consistent with the idea that crop producers would likely find pest and weed related production losses more important than livestock producers. Similarly, livestock producers find processing facilities for harvesting more important than crop producers as availability of faculties are limited. Additional analysis shows that row crop producers rank weed and pest-related production losses as “severe barriers” and swine producers rank processing facilities as a “severe barrier.”

**Table 4. ANOVA Comparison of Producers and Marketing/Production Barriers**

<i>Marketing Barriers</i>	<i>Significance (p&lt;.05)</i>
<b>Finding Reliable Buyers/Markets</b>	<b>0.003*</b>
<b>Difficulty Obtaining Organic Price Information</b>	<b>0.005*</b>
<b>Uncertainty in Obtaining Organic Price Premiums</b>	<b>0.010*</b>
Unstable Organic Markets and/or Prices	0.192
<b>Distance to Available Organic Markets</b>	<b>0.001*</b>
<b>Competition with "Non-Organic" Products</b>	<b>0.005*</b>
<b>Lack of Organic Marketing Networks</b>	<b>0.003*</b>
<i>Production Barriers</i>	<i>Significance (p&lt;.05)</i>
Weather- Related Production Loss	0.078
Pest-Related Production Loss	0.006*
Disease-Related Production Loss	0.095
<b>Weed-Related Production Loss</b>	<b>0.000*</b>
Fertility-Related Production Loss	0.054
High Inputs Costs	0.064
Availability of Organic Inputs (e.g. Feed, Fertilizer)	0.171
<b>Availability of Organic Processing Facilities</b>	<b>0.037*</b>
Lack of Understanding Regarding Organic Production Methods	0.370
<b>* Denotes statistical significance p&lt;.05</b>	

The ANOVA analysis for producers versus organic information sources is in Table 5. There are many statistical differences between groups. *Organic price reporting services, directory of organic buyers, education programs about organics, local/regional organic market development, marketing workshops/seminars, organic processing facilities, crop insurance, and organic specific research/extensions* are all significantly different among producer groups at the 95 percent or greater confidence level. Further analysis shows swine producers and multiple crop producers mainly rank the significantly different organic information services as “very useful.” *Representation on public policy issues and crop insurance* are not ranked highly overall.

**Table 5. ANOVA Comparison of Producers and Information Services**

<i>Information Services</i>	<i>Significance (<math>p &lt; .05</math>)</i>
<b>Organic Price Reporting Services</b>	<b>0.007*</b>
<b>Directories of Organic Product Buyers</b>	<b>0.002*</b>
<b>Consumer Education Programs About Organics</b>	<b>0.013*</b>
<b>Local/Regional Organic Market Development</b>	<b>0.001*</b>
Organic Export Programs/Market Development	0.072
Representation on Organics-Related Public Policy Issues	0.253
Organics Marketing Co-ops/Associations	0.058
<b>Organic Marketing Workshops/Seminars</b>	<b>0.005*</b>
<b>Organic Processing Facilities</b>	<b>0.000*</b>
<b>Crop Insurance for Organically Grown Products</b>	<b>0.000*</b>
<b>Organic-Specific Research/Extension</b>	<b>0.001*</b>
<b>* Denotes statistical significance <math>p &lt; .05</math></b>	

Producers were asked to “agree,” “disagree,” or answer “not sure” on various statements pertaining to organic marketing and production. Because the rankings are non-ordinal, statistical analysis cannot be performed between all three choices. If *not sure* is excluded, important information may not be purveyed. Only a few statements exhibit differences between groups. Beef producers mostly “disagreed” with the statements *technically viable, financially viable, feasible long-term production method* while most others were “unsure.” For all other statements, producer rankings are consistent between “agree,” “disagree,” and “unsure,” indicating no difference between groups.

## **Organic Survey Results – Statistical Analysis by Interest**

Additional analysis was performed based on Question 6 where producers rank their interest in becoming involved in organic production. The grouping was the same as before with producers who answered *No Interest* or *Slight Interest* grouped together as *No Interest*, and producers who answered *Moderate Interest* and *High Interest* grouped together as *High Interest*. Independent sample t-tests were used to determine if the two groups responded similarly or differently to marketing and production barriers.

Cross tabulations between *No Interest/High Interest* versus current production methods, years in operations and size of operation are in Table 6. From the table, 15 percent of those interested are currently non-certified organic. Fifty-nine percent of those interested have been in production for more than 20 years. In addition, those interested are smaller in size where 53 percent have less than \$50,000 annually in income. Of those not interested, 6 percent are currently practicing non-certified organic production practices.

**Table 6. Cross Tabulation between Interested/Not Interested and Production Methods, Years in Operation, and Size of Operation**

	No Interest	High Interest
Conventional	94%	78%
Previously Certified/No longer	0%	0%
In Process of Being Certified	0%	5%
Certified organic	0%	2%
Non-Certified Organic	6%	15%
	No Interest	High Interest
Less than 5 years	3%	8%
5-10 years	10%	13%
10-20 years	20%	20%
More than 20 years	68%	59%
	No Interest	High Interest
Less than \$50,000	47%	53%
\$50,000-\$99,999	16%	13%
\$100,000-\$249,999	14%	15%
\$250,000-\$499,999	10%	11%
\$500,000-\$999,999	7%	4%
Less than \$1,000,000	7%	4%

Table 7 shows the statistically different results from the independent t-test for those interested in organic production versus those not interested for marketing and production barriers. No marketing barriers are significantly different between groups. Only two production barriers, *fertility-related production loss* and *lack of understanding regarding organic production* are significant. Further examination shows that producers who are not interested in organic production rank almost all marketing barriers as a “severe barrier” to organic adoption. Those interested in organic production do not see marketing and production barriers as deterrents.

**Table 7. Independent T-Test Results between No Interest vs. High Interest for Marketing and Production Barriers**

<i>Marketing Barriers</i>	<i>Significance (p&lt;.05)</i>
Finding Reliable Buyers/Markets	0.265
Difficulty Obtaining Organic Price Information	0.658
Uncertainty in Obtaining Organic Price Premiums	0.760
Unstable Organic Markets and/or Prices	0.508
Distance to Available Organic Markets	0.699
Competition with "Non-Organic" Products	0.800
Lack of Organic Marketing Networks	0.319
<i>Production Barriers</i>	<i>Significance</i>
Weather- Related Production Loss	0.334
Pest-related Production Loss	0.401
Disease-related Production Loss	0.135
Weed-related Production Loss	0.067
<b>Fertility-related Production Loss</b>	<b>0.005*</b>
High Inputs Costs	0.722
Availability of Organic Inputs (e.g. Feed, Fertilizer)	0.379
Availability of Organic Processing Facilities	0.063
<b>Lack of Understanding Regarding Organic Production</b>	<b>0.008*</b>
<b>* Denotes statistical significance of p&lt;.05</b>	

Table 8 examines the revenue requirements for adopting organic production by those interested versus not interested. A high percentage of producers interested in organic production require additional revenue before adopting organic processes. Seventeen percent of the interested respondents said an increase in revenue was not necessary for organic adoption. A high percent, 73, of those interested state additional revenue is required to adopt organic production.



**Table 8. Cross Tabulation Percentages between No Interested/High Interested and the Requirement of Additional Revenue**

	<b>No Add. Revenue</b>	<b>Yes Add. Revenue</b>	<b>Not Necessary</b>
<b>No Interest</b>	55%	40%	5%
<b>High Interest</b>	10%	73%	17%

Table 9 shows the independent t-test results between no interest and those with high interest for information services. Those with no interest rank almost all information services as “not useful” while those who show interest in organic production ranked the information services as “very useful.” This would explain the highly significant statistical differences between those with interested and those not interested. Of the information services, those interested find information pertaining to *directories of organic product buyers, education programs about organics, local/regional /market development, and organic processing facilities* as the information services that are “very useful” when adopting organic production practices.

**Table 9. Independent T-Test Results between No Interested vs. High Interest for Information Services**

<i>Information Services</i>	<i>Significance P&lt;.05</i>
<b>Organic Price Reporting Services</b>	<b>0.000*</b>
<b>Directories of Organic Product Buyers</b>	<b>0.000*</b>
<b>Consumer Education Programs About Organics</b>	<b>0.000*</b>
<b>Local/Regional Organic Market Development</b>	<b>0.000*</b>
<b>Organic Export Programs/Market Development</b>	<b>0.000*</b>
<b>Representation on Organics-Related Public Policy Issues</b>	<b>0.000*</b>
<b>Organics Marketing Co-ops/Associations</b>	<b>0.000*</b>
<b>Organic Marketing Workshops/Seminars</b>	<b>0.000*</b>
<b>Organic Processing Facilities</b>	<b>0.000*</b>
<b>Crop Insurance for Organically Grown Products</b>	<b>0.000*</b>
<b>Organic-Specific Research/Extension</b>	<b>0.000*</b>
<b>* Denotes statistical significance <math>p &lt; .05</math></b>	

Table 10 shows the cross tabulation results for those with interest versus those not interested in organic production for producer statements. Cross tabulation results show a significant amount of information that is helpful in determining the general attitudes of those producers who are interested and those who are not interested.

For producers not interested in organic production, 87 percent are satisfied with their current production practices. This is supported by the additional results where 68 percent do not feel it is feasible in the long run and 73 percent do not agree that it is attractive because of problems with conventional farming.

The results for those interested in organic production show that many respondents are unsure about the financial gains or advantages from organic production. The biggest uncertainties were financially oriented as a large percentage responded “not sure” as to whether organic production is financially viable (60 percent), to organic production being feasible in the long run (61 percent), and to having seen evidence that organic farming is profitable (50 percent). A high percentage, 51 percent, agreed with the statement that they are concerned about economic risk from transitioning to organic production.

**Table 10. Cross Tabulation Percentages between No Interested/High Interested and the Organic Statements**

<i>Not Interest in Organic Production</i>	<i>Agree</i>	<i>Disagree</i>	<i>Not Sure</i>
Satisfied with my Present Farming System	82%	8%	10%
Organic farming is Technically Viable for Me	17%	77%	6%
Organic Farming is Financially Viable for Me	7%	51%	42%
Organic Farming is a Feasible Long-Term Production Method for Me	7%	54%	39%
Believe Organic Markets are Reliable	13%	41%	46%
Support the Philosophy of Organic Farming	51%	47%	2%
Organic Production is Compatible with High Production Farming Methods	5%	57%	38%
Organic Farming is Attractive Because of Problems Experienced with a Conventional System	6%	68%	26%
Lenders Support the Idea of Organic Production	1%	39%	60%
Are Concerned about Economic Risks of Transitioning to Organic Methods	47%	22%	31%
Have the Right Equipment for Organic Production	14%	43%	43%
Feel the Necessary Informational Support for Organic Farming is Available	20%	31%	49%
Have Seen Evidence that Organic Farming is Profitable	13%	43%	44%
Can Successfully Farm Without the Use of Synthetic Chemicals	16%	45%	39%
Understand the Process of Organic Certification	15%	34%	51%
Interested in Organic Production, but not Organic Certification	13%	44%	43%
<i>Interested in Organic Production</i>	<i>Agree</i>	<i>Disagree</i>	<i>Not Sure</i>

Satisfied with my Present Farming System	47%	26%	27%
Organic farming is Technically Viable for Me	23%	51%	26%
Organic Farming is Financially Viable for Me	29%	15%	56%
Organic Farming is a Feasible Long-Term Production Method for Me	33%	9%	58%
Believe Organic Markets are Reliable	31%	15%	54%
Support the Philosophy of Organic Farming	46%	43%	11%
Organic Production is Compatible with High Production Farming Methods	23%	23%	54%
Organic Farming is Attractive Because of Problems Experienced with a Conventional System	22%	37%	41%
Lenders Support the Idea of Organic Production	8%	19%	73%
Are Concerned about Economic Risks of Transitioning to Organic Methods	52%	16%	32%
Have the Right Equipment for Organic Production	28%	20%	52%
Feel the Necessary Informational Support for Organic Farming is Available	21%	28%	51%
Have Seen Evidence that Organic Farming is Profitable	31%	22%	47%
Can Successfully Farm Without the Use of Synthetic Chemicals	31%	16%	53%
Understand the Process of Organic Certification	15%	37%	48%
Interested in Organic Production, but not Organic Certification	33%	14%	53%

## **Future Benefits Derived from Project**

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The data reveals a large amount of information. General recommendations can be developed to assist producers in adopting organic production. These recommendations will assist in overcoming the significant barriers with regards to organic adoption.

### **Target Market**

The results show those respondents most often interested in organic adoption are vegetable/fruit producers, greenhouse/floriculture producers, and multiple crop producers, which are primarily beef producers. Producers interested in organic production are typically smaller in size. A surprising percentage of older producers are also interested in organic production. A relatively higher percentage of newer producers are already practicing non-certified organic production.

Based on this information, efforts should be directed toward newer producers in vegetables/fruits and greenhouses/floriculture. These producers showed more interest in organic adoption. These newer producers are smaller in size and are willing to take on the additional risk of organic production. Also, the producers who are currently practicing organic production but are non-certified should be targeted for certification.

### **Marketing and Production Barriers**

As a whole, producers felt no marketing barrier is a “severe barrier” to organic adoption. There are statistical differences between those with interest and those with no interest. In general, those with interest rank most barriers as less severe than those with no interest. Those with interest rank *high input cost*, *organic inputs*, and *organic processing facilities* as the most severe barriers to adoption. No marketing barriers are ranked as a “severe barrier” to adoption. Therefore, those with interest believe a market is available for organic products.

Assisting producers in overcoming production barriers should be the focus for policy makers to expand and promote the adoption of organic practices. Research shows consumers are demanding organic products. Producing the product to meet demand will be the key for success. Assistance in the development of organic processing facilities can come from local governments in the form of tax abatements, or lender support may create the development of new processing facilities.

*High input cost and availability of organic inputs* can be addressed through supply co-operatives and supplier directories. The cost of organic inputs required for production strains producers during the three-year transition period where output cannot be sold at the organic price level. This cost-price squeeze puts financial pressure on producers. The development of a supply co-operative will assist producers in obtaining the required inputs and, more importantly, assist in lowering the price of organic inputs because of increased purchasing power and volume associated with the cooperative. Most producers are smaller in size; hence, obtaining inputs at a relative low price is constrained by volume. A supply co-operative will be beneficial to lower cost and maintain a consistent supply of the necessary organic inputs for production.

### Information Services

Producers did not find any information service as “very useful.” There are significant differences among producer groups. The producers of vegetables/fruits and greenhouse/floriculture rank information services on *directories of organic buyers*, *education programs about organics*, *local/regional organic market development*, and *organic specific research/extension* as the main information services most useful for adoption. Most information services are about markets and buyers rather than production. Producers feel there are markets available, but that establishing contact and finding them is the key for success.

For those interested in organic production, almost all information services are “very useful.” The lowest ranked information services relative to others are *organic*

*export/market development, representation on organics-related public policy issues, marketing co-operatives/associations, and crop insurance.* The information services ranked highest are similar to the overall rankings where *directories of organic buyers, education programs about organics, and local/regional organic market development* are the information services deemed “very useful.”

Based on the results, it is clear which strategies for information services will be beneficial. First, a series of educational seminars on organic requirements and certification procedures is helpful to inform producers of the benefits, risks, and processes. This will help clear up any misconceptions and provide a clear pathway for producers in adopting organic practices.

Second, a directory of local and regional organic buyers and markets should be developed and maintained for organic producers. An online database may be beneficial, where producers can log on and search for potential buyers of their products. This will narrow the information gap and lower the transaction costs for producers, as they do not have to search for buyers. Also, as a potential source of revenue to offset database cost, buyers could be asked to pay to be listed on the database so they have access to finding organic suppliers and meet the demand of consumers.

Third is assistance in developing local/regional markets. Producers feel there is demand for organic products and markets, but the distance traveled may be too great to overcome the additional cost. Local/regional markets can be developed through marketing assistance programs to educate consumers about the availability of locally grown organic products. A GO TEXAN organic label could be useful in leveraging the popularity of the existing logo. This would easily identify Texas-grown organic products.

Financial risk from adoption or transitioning seems to be a common concern. Specifically, most producers are unsure about *lenders support the idea of organic production*. Support from lenders would be critical in assisting producers when undertaking the three-year transition process to become certified organic. Lenders must

understand that during this period, farm income may decrease and assistance will be needed. An education program should be developed where lenders are shown the problems with organic production and understand the financial constraints over the transition period. Having lender buy in will greatly assist producers in overcoming the financial burdens when switching to organic production.

### *Recommendations for Future Research*

This research was beneficial for establishing baseline analysis for adoption of organic production in Texas. Key barriers and concerns were identified for all producer groups. Target markets and recommendations were developed based on these baseline results. Future research should expand on the baseline analysis to determine the effectiveness of target market selection and policy recommendations. As the market evolves over the next few years, it is hoped that the current barriers to adoption are not as severe for producers because of the policy recommendations. An annual update would be beneficial to track progress relative to the initial baseline.

### *Project Beneficiaries*

This project benefited all agricultural producers, agricultural processors, and consumers in Texas. Texas is currently the second the second largest agriculture producing state and contributes approximately \$73 billion to the state economy of Texas. There are approximately 230,000 producers in Texas and 23.5 million consumers. The evolving organic market could directly affect a large percentage of these producers and consumers. These affects are dependent upon producer willingness to adopt and if consumer taste and preferences continue to increase for organic products. However, the opportunity for growth in the organic market is substantial and would expand the agricultural market in Texas and contribute greatly to the state economy.

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## ***Appendix***

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***Table A. Organic Production Survey Responses***

	<b>n</b>	<b>%</b>	<b>Est. n</b>	<b>% target</b>
<b>Row Crop Production</b>	257	26%	240	107%
<b>Beef Production</b>	499	51%	120	416%
<b>Dairy Production</b>	86	9%	150	57%
<b>Veg/Fruit/Nut Production</b>	196	20%	270	73%
<b>Swine Production</b>	29	3%	32	91%
<b>Green House/Floriculture</b>	64	7%	120	53%
<b>Poultry/Egg Production</b>	108	11%	135	80%
<b>Sheep/Goat Production</b>	179	18%	135	133%
<b>Total Surveys Returned</b>	1178		1202	98%
<b>Completed Surveys</b>	977			

***Table A1. Organic Production Survey Sample Plan***

<b>Product Category (% of Total N)</b>	<b>Total N</b>	<b>Sample n</b>
<b>1. Grains, Oilseeds, Dry Beans &amp; Dry Peas (8.2%)</b>	5460	400
<b>2. Cotton (10.5%)</b>	6975	400
<b>3. Vegetables, Melons, Potatoes &amp; Sweet Potatoes (2.1%)</b>	1409	500
<b>4. Fruit, Tree Nuts &amp; Berries (4.6%)</b>	3085	400
<b>5. Greenhouse, Nursery, Floriculture &amp; Sod (4.9%)</b>	3266	400
<b>6. Hogs &amp; Pigs (0.2%)</b>	106	106
<b>7. Milk (1.4%)</b>	930	500
<b>8. Cattle &amp; Calves (64.5%)</b>	42975	400
<b>9. Sheep &amp; Goats (1.9%)</b>	1256	450
<b>10. Poultry &amp; Eggs (1.7%)</b>	1118	450
<b>Totals:</b>	66580	4006

**Table B. Cross Tabulation Comparison between Producer and Production Operation**

	<b>Conventional</b>	<b>Previously Certified/No Longer</b>	<b>In Process Being Certified</b>	<b>Certified Organic</b>	<b>Non- Certified Organic</b>
<b>Row Crop Production</b>	96%	1%	0%	2%	1%
<b>Beef Production</b>	89%	0%	1%	0%	10%
<b>Dairy Production</b>	93%	0%	3%	1%	3%
<b>Veg/Fruit/Nut Production</b>	79%	0%	1%	3%	18%
<b>Swine Production</b>	100%	0%	0%	0%	0%
<b>Green House/Floriculture</b>	83%	0%	6%	0%	11%
<b>Poultry/Egg Production</b>	93%	0%	0%	0%	7%
<b>Sheep/Goat Production</b>	86%	0%	0%	0%	14%
<b>Multiple</b>	90%	0%	2%	0%	8%

**Table C. Cross Tabulations between Production Practice and Years in Operation**

	<b>Less than 5 years</b>	<b>5-10 years</b>	<b>10-20 years</b>	<b>More than 20 years</b>
<b>Conventional</b>	4%	10%	20%	66%
<b>Previously certified/No Longer</b>	0%	0%	50%	50%
<b>Conventional/in Process being Certified</b>	0%	27%	7%	67%
<b>Certified Organic</b>	20%	20%	20%	40%
<b>Non-certified Organic</b>	10%	15%	20%	56%

**Table D. Cross Tabulations of between Producer and Years in Operation**

	<b>Less than 5 years</b>	<b>5-10 years</b>	<b>10-20 years</b>	<b>More than 20 years</b>
<b>Row Crop Production</b>	1%	6%	21%	72%
<b>Beef Production</b>	5%	10%	21%	64%
<b>Dairy Production</b>	6%	8%	19%	67%
<b>Veg/Fruit/Nut Production</b>	15%	13%	21%	51%
<b>Swine Production</b>	13%	25%	12%	50%
<b>Green House/Floriculture</b>	6%	11%	27%	56%
<b>Poultry/Egg Production</b>	2%	15%	42%	41%
<b>Sheep/Goat Production</b>	6%	16%	18%	60%
<b>Multiple</b>	3%	10%	16%	71%

**Table E. Cross Tabulation between Producer and Annual Gross Revenue**

	<b>Less than \$50,000</b>	<b>\$50,000-\$99,999</b>	<b>\$100,000-\$249,999</b>	<b>\$250,000-\$499,999</b>	<b>\$500,000-\$999,999</b>	<b>More than \$1,000,000</b>
<b>Row Crop Production</b>	27%	14%	18%	17%	14%	10%
<b>Beef Production</b>	68%	19%	8%	2%	1%	1%
<b>Dairy Production</b>	1%	3%	15%	29%	21%	31%
<b>Veg/Fruit/Nut Production</b>	79%	6%	8%	5%	1%	1%
<b>Swine Production</b>	13%	63%	13%	0%	0%	13%
<b>Green House/Floriculture</b>	31%	11%	19%	17%	6%	17%
<b>Poultry/Egg Production</b>	22%	20%	39%	17%	0%	2%
<b>Sheep/Goat Production</b>	82%	12%	6%	0%	0%	0%
<b>Multiple</b>	47%	16%	16%	10%	6%	4%

**Table F. Cross Tabulation between Producer and Operation Changing**

	<b>Expanding Size</b>	<b>Decreasing Size</b>	<b>Closing</b>	<b>Becoming More Diverse</b>	<b>No Changes Expected</b>
<b>Row Crop Production</b>	18%	9%	7%	13%	53%
<b>Beef Production</b>	21%	12%	5%	5%	57%
<b>Dairy Production</b>	36%	10%	8%	8%	38%
<b>Veg/Fruit/Nut Production</b>	14%	9%	6%	8%	64%
<b>Swine Production</b>	25%	25%	0%	13%	38%
<b>Green House/Floriculture</b>	31%	11%	6%	8%	44%
<b>Poultry/Egg Production</b>	20%	7%	10%	5%	59%
<b>Sheep/Goat Production</b>	8%	10%	10%	24%	49%
<b>Multiple</b>	23%	14%	4%	11%	49%

**Table G. Frequency Distributions for Market Conditions**

	<b>Not a Barrier</b>	<b>Moderate Barrier</b>	<b>Severe Barrier</b>
<b>Finding Reliable Buyers/Markets</b>	32%	33%	35%
<b>Difficulty Obtaining Organic Price Info</b>	28%	39%	32%
<b>Uncertainty in Obtaining Organic Price Premiums</b>	25%	37%	38%
<b>Unstable Organic Markets and/or Prices</b>	28%	37%	36%
<b>Distance to Available Markets</b>	27%	30%	43%
<b>Competition "Non-Organic" Products</b>	29%	32%	39%
<b>Lack of Marketing Networks</b>	26%	34%	40%

**Table H. Frequency Distributions for Production Conditions**

	<b>Not a Barrier</b>	<b>Moderate Barrier</b>	<b>Severe Barrier</b>
<b>(Production Conditions) Weather- Related Prod Loss</b>	26%	35%	39%
<b>Pest-related Prod Loss</b>	24%	31%	45%
<b>Disease-related Prod Loss</b>	24%	34%	42%
<b>Weed-related Prod Loss</b>	27%	30%	44%
<b>Fertility-related Prod Loss</b>	32%	33%	35%
<b>High Inputs Costs</b>	22%	32%	45%
<b>Organic Inputs (Feed, Fertilizer)</b>	22%	35%	43%
<b>Organic Processing Facilities</b>	22%	29%	49%
<b>Lack of Understanding Regarding Organic Prod</b>	26%	35%	39%

**Table I. Cross Tabulation between Producer and Additional Revenue**

	<b>No Add. Revenue</b>	<b>Yes Add. Revenue</b>	<b>Not Necessary</b>
<b>Row Crop Production</b>	45%	50%	5%
<b>Beef Production</b>	49%	46%	5%
<b>Dairy Production</b>	38%	54%	8%
<b>Veg/Fruit/Nut Production</b>	52%	28%	20%
<b>Swine Production</b>	25%	75%	0%
<b>Green House/Floriculture</b>	38%	34%	28%
<b>Poultry/Egg Production</b>	56%	41%	3%
<b>Sheep/Goat Production</b>	41%	53%	6%
<b>Multiple</b>	36%	55%	9%

**Table J. Frequency Distributions for Organic Information/Services**

	<b>Not Useful</b>	<b>Somewhat Useful</b>	<b>Very Useful</b>
<b>Organic Price Reporting Services</b>	36%	35%	29%
<b>Directories of Organic Product Buyers</b>	34%	32%	34%
<b>Education Prog. About Organics</b>	34%	33%	32%
<b>Local/Regional Organic Market Development</b>	33%	34%	33%
<b>Organic Export/Market Development</b>	41%	34%	26%
<b>Representation on Organics-Related Public Policy Issues</b>	40%	38%	22%
<b>Organics Marketing Co-ops/Associations</b>	37%	33%	30%
<b>Marketing Workshops/Seminars</b>	36%	35%	29%
<b>Organic Processing Facilities</b>	35%	30%	36%
<b>Crop Insurance</b>	42%	28%	30%
<b>Organic-Specific Research/Extension</b>	34%	34%	32%

**Table L. Cross Tabulation Between Producers and Organic Production Topics, Number Selected**

	<b>Row Crop Production</b>	<b>Beef Prod.</b>	<b>Dairy Prod.</b>	<b>Veg/Fruit/Nut Production</b>	<b>Swine Production</b>	<b>Green House/Flor.</b>	<b>Poultry/Egg Production</b>	<b>Sheep/Goat Production</b>	<b>Multiple</b>
<b>None</b>	14%	27%	6%	7%	1%	3%	6%	5%	31%
<b>Season Extension Techniques</b>	10%	19%	7%	9%	0%	4%	3%	4%	46%
<b>Post-Harvest Handling</b>	11%	18%	5%	9%	0%	3%	3%	5%	46%
<b>Weed Control</b>	11%	21%	6%	10%	0%	4%	1%	4%	43%
<b>Insect Control</b>	10%	18%	7%	11%	0%	5%	2%	4%	44%
<b>Value-Added Products</b>	11%	18%	8%	5%	2%	2%	2%	8%	44%
<b>Soil Amendments</b>	10%	17%	6%	12%	0%	6%	2%	5%	42%
<b>Marketing of Organic Products</b>	9%	16%	8%	8%	1%	3%	3%	5%	46%
<b>Consumer Education on Organics</b>	10%	18%	5%	8%	1%	5%	4%	6%	43%
<b>Appropriate Equipment/Machinery</b>	10%	19%	6%	9%	0%	1%	5%	5%	46%
<b>Best Management Practices</b>	10%	16%	9%	8%	1%	3%	3%	5%	44%
<b>Disease Control</b>	7%	16%	8%	10%	2%	5%	3%	4%	44%
<b>Organic Certification</b>	11%	16%	11%	9%	2%	3%	2%	5%	42%
<b>Health Regulations</b>	8%	19%	11%	8%	2%	2%	2%	5%	43%
<b>Fertilizing Techniques</b>	12%	18%	7%	11%	0%	5%	2%	4%	41%
<b>Rotational Grazing</b>	6%	27%	11%	2%	0%	1%	1%	8%	46%
<b>Composting</b>	11%	16%	11%	11%	0%	4%	3%	5%	41%
<b>Record Keeping</b>	8%	16%	9%	8%	1%	3%	3%	6%	48%
<b>Crop Rotations</b>	18%	18%	6%	7%	0%	1%	0%	3%	47%
<b>Exporting Organics</b>	15%	20%	6%	6%	2%	2%	5%	2%	43%
<b>Cooperative Input/Supply Buying</b>	12%	18%	11%	6%	1%	3%	3%	6%	40%
<b>Labeling</b>	7%	18%	7%	10%	2%	4%	2%	4%	45%
<b>Irrigation</b>	10%	18%	9%	10%	0%	3%	2%	4%	43%
<b>Cover Crop</b>	9%	20%	7%	11%	0%	1%	1%	3%	48%



## Agricultural Producer Survey Organic Production

Please answer the following questions and share your views regarding organic production of YOUR commodities. All responses are anonymous. Results will be compiled to represent industry perceptions and concerns.

**1. Please indicate the type of producer category that best describes your business. (Select all that apply.)**

- |  |   |                                       |
|--|---|---------------------------------------|
| <input type="checkbox"/> Row Crop Production | <input type="checkbox"/> Vegetable/Fruit/Nut Production | <input type="checkbox"/> Poultry/Eggs |
| <input type="checkbox"/> Beef Production     | <input type="checkbox"/> Swine Production               | <input type="checkbox"/> Sheep/Goats  |
| <input type="checkbox"/> Dairy Production    | <input type="checkbox"/> Greenhouse/Floriculture/Sod    |                                       |

**2. Which of the following statements are most accurate regarding your CURRENT agricultural operation? (Mark all that apply.)**

- |  |  |
|--|--|
| <input type="checkbox"/> Conventional  | <input type="checkbox"/> Certified organic     |
| <input type="checkbox"/> Previously certified organic but no longer certified          | <input type="checkbox"/> Non-certified organic |
| <input type="checkbox"/> Conventional but in the process of becoming certified organic |  |

**3. Please indicate your years in agricultural operation (including conventional and organic).**

- |  |   |
|--|---|
| <input type="checkbox"/> Less than 5 years | <input type="checkbox"/> 5 to 10 years      |
| <input type="checkbox"/> 10 to 20 years    | <input type="checkbox"/> More than 20 years |

**4. Please identify the size of your operation by selecting the category that best describes your annual gross sales.**

- |   |   |
|---|---|
| <input type="checkbox"/> Less than \$50,000     | <input type="checkbox"/> \$250,000 to \$499,999 |
| <input type="checkbox"/> \$50,000 to \$99,999   | <input type="checkbox"/> \$500,000 to \$999,999 |
| <input type="checkbox"/> \$100,000 to \$249,999 | <input type="checkbox"/> More than \$1,000,000  |

**5. How do you see your operation CHANGING in the next three years? (Select all that apply.)**

- |  |  |
|--|--|
| <input type="checkbox"/> Expanding Size  | <input type="checkbox"/> Becoming More Diversified |
| <input type="checkbox"/> Decreasing Size | <input type="checkbox"/> No Changes Expected       |
| <input type="checkbox"/> Closing         |  |

**6. Please indicate your interest in becoming involved in organic production.**

☐

None

☐

Slight Interest

☐

Moderate Interest

☐

High Interest

**7. Please indicate how you would classify the following as barriers to your personal entry into organic markets.**

"Not a barrier" = no issue to entering organic markets

"Moderate barrier" = some level of barrier for entry to organic markets

"Severe barrier" = a definite barrier to entry

	Not	Moderate	Severe
<b>Market Conditions</b>			
Finding reliable buyers/market for my organic products			
Difficulty obtaining organic price information			
Uncertainty in obtaining organic price premiums			
Unstable organic market and/or prices			
Distance to available organic markets			
Competition with "non-organic" products			
Lack of organic marketing networks			
<b>Production Conditions</b>			
Weather-related production losses			
Pest-related production losses			
Disease-related production losses			
Weed-related production losses			
Fertility-related production losses			
High input costs			
Availability of organic inputs (feed, fertilizer, etc.)			
Availability of organic processing facilities			
Lack of understanding regarding organic production methods			
Other (please specify) _____			

**8. Would an increase in revenue facilitate your adoption of organic production?**

☐

No, no amount of additional revenue will create the change.

☐

Yes, additional revenue might encourage a change to organic production.

☐

An increase in revenue is not necessary for me to adopt organic production.

**If you answered "yes" above, please indicate the additional revenue necessary to adopt organic production: \$ \_\_\_\_\_ per year.**



**9. Please rate the usefulness of the following information and/or services for marketing your products organically.**

"Not useful" = will not help

"Somewhat useful" = may provide some benefit

"Very useful" = will be essential to developing an organic market

	<b>Not Useful</b>	<b>Somewhat Useful</b>	<b>Very Useful</b>
<b>Information and/or Services</b>			
Organic price reporting services			
Directories of organic product buyers			
Consumer education programs about organics			
Local/regional organic market development			
Organic export programs/market development			
Representation on organics-related public policy issues			
Development of organic marketing co-ops/associations			
Organic marketing workshops/seminars			
Organic processing facilities			
Crop insurance for organically grown products			
Organic-specific research and extension services			
Other (please specify) _____			

**10. Please indicate which of the following topics will help you learn more about organic production. (Select all that apply.)**

- |  |  |
|--|--|
| <input type="checkbox"/> None                            | <input type="checkbox"/> Organic certification           |
| <input type="checkbox"/> Season extension techniques     | <input type="checkbox"/> Health regulations              |
| <input type="checkbox"/> Post-harvest handling           | <input type="checkbox"/> Fertilizing techniques          |
| <input type="checkbox"/> Weed control                    | <input type="checkbox"/> Rotational grazing              |
| <input type="checkbox"/> Insect control                  | <input type="checkbox"/> Composting                      |
| <input type="checkbox"/> Value-added products            | <input type="checkbox"/> Recordkeeping                   |
| <input type="checkbox"/> Soil amendments                 | <input type="checkbox"/> Crop rotations                  |
| <input type="checkbox"/> Marketing of organic products   | <input type="checkbox"/> Exporting organics              |
| <input type="checkbox"/> Consumer education on organics  | <input type="checkbox"/> Cooperative input/supply buying |
| <input type="checkbox"/> Appropriate equipment/machinery | <input type="checkbox"/> Labeling                        |
| <input type="checkbox"/> Best management practices       | <input type="checkbox"/> Irrigation                      |
| <input type="checkbox"/> Disease control                 | <input type="checkbox"/> Cover crops                     |
| <input type="checkbox"/> Other (please specify) _____    |  |

*(Survey continued on page 4.)*

**11. Please indicate whether you agree or disagree with the following statements.**

	<b>Agree</b>	<b>Disagree</b>	<b>Not Sure</b>
I am satisfied with my present farming system.			
Organic farming is technically viable for me.			
Organic farming is financially viable for me.			
Organic farming is a feasible long-term production method for me.			
I believe organic markets are reliable.			
I support the philosophy of organic farming.			
Organic production is compatible with my high production system of farming.			
Organic farming is attractive because I have experienced problems with my conventional system.			
My lenders support the idea of organic production.			
I am concerned about the economic risks of transitioning to organic methods.			
I have the right equipment for organic production.			
I feel the necessary informational support for organic farming is available.			
I have seen evidence that organic farming is profitable.			
I can successfully farm without the use of synthetic chemicals.			
I understand the process of organic certification.			
I am interested in organic production, but not organic certification.			

**12. Please provide comments regarding your thoughts on organic production and barriers to adoption.**

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